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PRINCIPAL INVESTIGATOR: LTC Erik Kobylarz

CONTRACTING ORGANIZATION: Landstuhl Regional Medical Center
APO, AR 09180

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6. AUTHOR(S)

LTC Mary Lopez

7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES)

US Army CHPPM

Aberdeen Proving Ground, Maryland 21010-5422

**8. PERFORMING ORGANIZATION
REPORT NUMBER****E-MAIL:**

mary.lopez@det.amedd.army.mil

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MidTerm Overall Evaluation Report

PROPOSAL: 1999000268

TITLE: LRMC REMOTE TELERETINOLOGY AND TELEOPHTHALMOLOGY PROJECT

1. ACCOMPLISHMENTS:

The Topcon digital ocular fundus and fluorescein angiogram digital imaging system, which was purchased with the allotted P8 funding, has been of great use in the LRMC ophthalmology and neuro-ophthalmology clinic for patients referred from throughout ERM. The metrics for this machine's use are shown below: 1. Since 28 July 00, when the camera was finally installed in our clinic, we have taken high resolution digital ophthalmologic photographs of 64 pairs of eyes. At the present time we are performing an average of 2 digital ophthalmic photographs per day and 3 digital fluorescein angiogram studies per week. We no longer utilize conventional ophthalmologic photography in our clinic. 2. Patients with a variety of diagnoses have benefited from the availability of this technology in our clinic to include: optic neuritis, open angle glaucoma, corneal neovascularization, pseudotumor cerebri, ocular fundus and iris nevi, pterygium, blonde fundus, coloboma, thyroid ophthalmopathy, abnormal appearing optic nerves (large optic cups), and others. 3. The immediate availability of the digital photographs for our reference and documentation in the patients' digital medical records is invaluable from a clinical standpoint. Before the acquisition of this camera, we would need to wait 1-3 months for the conventional ophthalmic photographs and at least several days for the fluorescein angiogram photographs to be processed. Now we can more accurately perform serial ophthalmologic examinations for patients who have pathologic processes in flux. 4. A significant amount of money was saved for the development of the photographs by utilizing this digital camera. It will be determined exactly how much money was saved for the final year-end report.

2. PROBLEMS:

The main problem we have encountered is likely (and hopefully) unique to ERM. It required an extraordinarily long period of time for the Topcon Digital Ophthalmic Imaging System to be delivered to LRMC (from 2/2000 when the funding was approved until the end of 7/2000). Unfortunately, this delayed the initiation of this project. The local Medical Logistics unit is located at Baumholder ACH, located more than 1 hour north of LRMC. Despite numerous e-mails and phone calls by me and the NCOIC of the LRMC ophthalmology clinic, the delivery of the imaging apparatus could not be expedited. There also exists a significant learning curve and variation of the technicians' abilities for use of the camera. However, at this time, the ophthalmic technologists have undergone significant improvement and appear to be adept at using the Topcon digital imaging system. The last problem is the one I feel undermines the development of the AMEDD-wide telemedicine program to its fullest extent. It also explains why this project status report is being submitted late. Despite my repeated requests for time allotted during the normal work week for my T-med activities, I have on every occasion been denied this by the local ERM and LRMC command. I serve as a full time clinical neurologist (one of 3 in ERM) and neuro-ophthalmologist (the only one within ERM). As you might imagine, this occupies all of my work time (and then some!). Besides the commitment to the ERM T-med program with funding, EUCOM must provide us with adequate time for our T-med related work, particularly if it becomes one of our significant assigned duties, as it has in my case as the ERM/LRMC Clinical T-med Consultant. By denying us adequate time to perform this work, they are jeopardizing the program and cannot ever expect it to be as successful as they would like. I needed a total of > 20 hour alone to review the recently submitted 2001 P8 funding proposals. It should not be expected that I should do this on my own time, as I ended up needing to do. In addition, it cannot be assumed that program will flourish by mere funding alone.

3. LIFE-CYCLE:

The next phase of this project will involve: 1. Continued acquisition of digital photographs and fluorescein angiogram studies. 2. Accurate documentation of the patients' diagnoses in order to determine which of these best benefit from the use of this digital camera. 3. Connection of the computer to the LRMC LAN in

order to facilitate providing patients with copies of the digital photographs as well as to enable us to send these electronically to ophthalmologic subspecialists located elsewhere, such as at WRAMC. 4. Once we are able to accomplish #3, we can determine when and how many aeromedical evacuations can be avoided by means of utilizing this apparatus.

4. DELIVERABLES:

1. Clinical - Diagnostic - The time to diagnosis has certainly been reduced through the use of this imaging system. We have immediate results of the fluorescein angiogram studies we perform as well as instant digital photographs we can temporally compare with those taken previously to assess and monitor the patients' ophthalmologic disease processes. 2. The above benefit will certainly help expedite the appropriate administration of care to our patients. 3. Budgetary - See below. 4. The providers have already expressed their satisfaction with the imaging system, but specific comments will be noted and provided in the final report. 5. There certainly exists AMEDD-wide applicability for this project for MEDCENs which serve similarly geographically dispersed patient populations, such as Tripler AMC.